

10/523889

ETD1 Rec'd PCT/PTC 04 FEB 2005

In the Claims:

Please amend the following claims as follows:

1. (Currently Amended) A ~~[[S]]~~ semiconductor laser structure comprising: a light guiding core ~~[[13]]~~, which is located between a lower confinement layer ~~[[15]]~~ and an upper confinement layer ~~[[14]]~~ including an engraved ribbon guide ~~[[16]]~~ loading the core to form an optical guide, the guiding core comprising an amplifier section ~~[[1]]~~ delineated by two reflectors forming a resonant cavity that allows selection of a laser mode with a tunable wavelength, characterized in that at least one reflector is composed of a photonic crystal section comprised of at least one pair of gratings of holes ~~[[19]]~~ that are located on either side of the ribbon guide ~~[[16]]~~, each grating of holes ~~[[19]]~~ of the photonic crystal section having holes arranged in a trapezoid, the larger base of the trapezoid being farther away from the ribbon guide than the smaller base.
2. (Currently Amended) The ~~[[L]]~~ laser structure ~~as claimed in~~ of Claim 1, characterized in that the reflector comprised of a photonic crystal section ~~[[2]]~~ is composed of sampled pairs of gratings of holes ~~[[19]]~~ located on either side of the ribbon guide ~~[[16]]~~.
3. (Currently Amended) The ~~[[L]]~~ laser structure ~~as claimed in~~ of Claim 2, characterized in that the sampling of the pairs of gratings of holes ~~[[19]]~~ is constant.
4. (Currently Amended) The ~~[[L]]~~ laser structure ~~as claimed in~~ of Claim 2, characterized in that the two reflectors are composed of a photonic crystal section ~~[[2, 2']]~~, which is comprised of sampled pairs of gratings of holes ~~[[19]]~~, the sampling of the pairs of gratings of holes ~~[[19]]~~ of each photonic crystal section ~~[[2, 2']]~~ being different.
5. The ~~[[L]]~~ laser structure ~~as claimed in one~~ of Claim~~[[s]]~~ 1 ~~to~~ 4, characterized in that the pitch of the gratings of holes ~~[[19]]~~ is constant.
6. The ~~[[L]]~~ laser structure ~~as claimed in one~~ of Claim~~[[s]]~~ 1 ~~to~~ 4, characterized in that the pitch of the gratings of holes ~~[[19]]~~ is variable.

7. The ~~[[L]]~~laser structure ~~as claimed in~~ of Claim 1, characterized in that said structure comprises moreover a modulation section ~~[[21]]~~, the reflector located between the amplifier section ~~[[1]]~~ and the modulation section ~~[[21]]~~ being composed of a photonic crystal section comprised of at least one pair of gratings of holes ~~[[19]]~~, which are located on either side of the ribbon guide ~~[[16]]~~.